

CLAIMS:

1. Light generating device comprising
 - a slab light guide (1) having two substantially parallel sides (10, 11) and at least one edge (12), the edge (12) having a surface connecting the surfaces of said sides (10, 11),
 - at least one light input unit (2) arranged on at least one side (10) of said light guide (1) comprising at least one light source (20) and a light incoupling means (21) for coupling light into said light guide (1), and
 - at least one light output unit (3) arranged on at least one side (11) of said light guide (1) comprising a light outcoupling means for coupling light out of said light guide (1).
2. Light generating device as claimed in claim 1, wherein said light incoupling means (21) comprises a plurality of incoupling optical elements (22-24) being in optical contact with the surface of said at least one side (10) of said light guide (1), said incoupling optical elements (22-24) having a reflective surface section (24) facing the light source (20) and being aligned substantially parallel to the surface of a side (10) of said light guide (1) and at least one transparent surface section (23) being arranged at an angle different from 0°, in particular at an angle of substantially 90°, with respect to the surface of a side (10) of said light guide (1).
3. Light generating device as claimed in claim 2, wherein said incoupling optical elements (22-24) are arranged at intervals and wherein between said incoupling optical elements (22-24) light reflecting means (25) are arranged, in particular a structured reflective foil or structured reflective mask that is substantially not in optical contact with said light guide (1).
4. Light generating device as claimed in claim 2, wherein said incoupling optical elements (22-24) are arranged at intervals and wherein between said incoupling optical elements (22-24) light reflecting means (25) are arranged, in particular a reflective layer in optical contact with said light guide (1), that is specularly reflective on the side facing the said light guide (1).

5. Light generating device as claimed in claim 2,
wherein a reflective surface section (24) of the said incoupling optical elements is diffusely
reflective having a reflectivity of substantially 100% at the side of said reflective surface
5 section (24) facing away from the light guide (1)

6. Light generating device as claimed in claim 1,
wherein said light outcoupling means comprises a plurality of outcoupling optical elements
(32, 33) being in optical contact with the surface of said at least one side (11) of said light
10 guide (1), said outcoupling optical elements (32, 33) having at least one transparent surface
section (33) being arranged at an angle different from 0°, in particular at an angle of
substantially 90° with respect to the surface of a side (11) of said light guide (1).

7. Light generating device as claimed in claim 6,
15 wherein said outcoupling optical elements (32, 33) are arranged at intervals and wherein
between said outcoupling optical elements (32, 33) light reflecting means (35) are arranged,
in particular a shaped foil, having a reflective surface facing away from said light guide (1),
in particular a specularly reflecting surface that is inclined with respect to the transparent
surface section (33) of said outcoupling optical elements, the separation between said
20 transparent surface section (33) of said outcoupling optical elements and said specular
reflecting surface of said shaped foil (35) widening in the direction away from the said light
guide (1).

8. Light generating device as claimed in claim 1,
25 wherein said light guide (1) is provided with light reflection means (13), in particular a
specular or diffuse reflector, at its edge (12), the diffuse reflector (13) being substantially not
in optical contact with said light guide (1).

9. Light generating device as claimed in claim 1,
30 comprising only one light input unit (2) and/or one light output unit (3), wherein the light
input unit (2) and/or the light output unit (3) extend(s) substantially across one whole surface
area of one side (10, 11) of said light guide (1).

10. Light generating device as claimed in claim 1,

wherein the surface area of the at least one side (10) that is covered by the at least one light input unit (2) is larger than the surface area of the at least one side (11) that is covered by the at least one light output unit (3).

- 5 11. Light generating device as claimed in claim 1,
 wherein the surface area of the at least one side (10) that is covered by the at least one light
 input unit (2) is smaller than the surface area of the at least one side (11) that is covered by
 the at least one light output unit (3).
- 10 12. Light generating device as claimed in claim 1,
 wherein said at least one light input unit (2) further comprises a light-directing means (7) for
 directing light, in particular sunlight (40, 41) and/or light generated from external light
 sources, into said at least one light input unit (2).
- 15 13. Light generating device as claimed in claim 1,
 wherein said at least one light output unit (3) is provided with a transparent fixing means (37)
 for non-permanently fixing the light output unit (3) at an arbitrary position onto a side (11) of
 said light guide (1).
- 20 14. Display device comprising a display screen, in particular a LC display screen,
 and a light generating device as claimed in claim 1.
15. Display device as claimed in claim 14,
 wherein said light generating device comprises only one light input unit (2) and one light
25 output unit (3), wherein the light input (2) unit extends substantially over the whole surface
 area of the side (10) of said light guide (1) facing away from said LC display screen and
 wherein the light output unit (3) extends substantially over the whole surface area of the side
 (11) of said light guide (1) facing the LC display screen, and wherein the size and geometry
 of the side (11) of said light guide (1) facing the LC display screen substantially corresponds
30 to the size and geometry of the LC display screen.